

## **REMARKS**

Claims 1, 2, 4-12, 14-21, 23-29 and 31-36 are pending.

Applicants thank the Examiner for entering applicants' last Response and Amendment, and for withdrawing, in view thereof, the prior 35 U.S.C. § 112 ¶2-based rejection and the 35 U.S.C. § 103(a) rejection.

The specification has been objected to because not all of applicants' second moiety compounds possess "a diene conjugated carbon-carbon double bond and a carboxylic acid moiety or anhydride." Applicants respectfully traverse this objection, based on applicants' arguments and claim amendments described herein below.

Claims 4, 10, 14, 23, 31 and 36 were rejected by the Examiner under 35 U.S.C. § 112 ¶2, allegedly because "the recited compounds are not compounds possessing a diene-conjugated carbon-carbon double bond and a carboxylic moiety or anhydride group." Applicants respectfully traverse this rejection with respect to claims 4, 14, 23, 31 and 36, but have responsively amended claim 10 to obviate this issue.

Applicants thank the Examiner for indicating that claims 20-21, 23-29 and 31-35 would be allowed upon filing of a proper Terminal Disclaimer, in view of the non-statutory double patenting rejection (in view of U.S. Patent No. 6,239,298). Applicants respectfully traverse this rejection, based on the differences of the 'first moiety' and the surprising results of the instant claimed products as taught and claimed in applicants' originally filed application.

No new matter has been added.

## ***FORMALITIES***

The Examiner has objected to the specification because "applicants' second moiety at pages 3, 6 and all Examples, for example, are not compounds possessing a diene conjugated carbon-carbon double bond and a carboxylic acid" (Office Action of 02 November 2004, at pages 2-3).

Applicants have responded to this objection under applicants' response below to the Examiner's 35 U.S.C. § 112 ¶2 rejection, based on the same issue. Basically, while the teachings of the specification may in fact be broader than the currently claimed subject matter, applicants are aware of no requirement to narrow the specification disclosure to conform to a given set of claims. Applicants thus respectfully request that his objection be withdrawn.

***Rejection under 35 U.S.C. § 112 ¶2***

Claims 4, 10, 14, 23, 31 and 36 were rejected by the Examiner, under 35 U.S.C. § 112 ¶2, allegedly because "the recited compounds are not compounds possessing a diene-conjugated carbon-carbon double bond and a carboxylic moiety or anhydride group" (Office Action of 02 November 2004, at pages 2-3).

Applicants respectfully traverse this rejection with respect to claims 4, 14, 23, 31 and 36, because the recited three-moiety combinations of the Markush group of these claims do in fact possess the requisite respective moiety structures, and therefore deem this issue to be moot with respect to these particular claims.

Applicants have, however, responsively amended claim 10 to obviate the Examiner's concern.

The Examiner asserts that applicants' recital, for the second moiety, of "a structure having diene conjugated carbon-carbon double bond and a carboxylic acid or anhydride moiety" is unclear, presumably because in the context of the applicants teachings and Examples it encompasses (i) a conjugated diene having a carboxylic acid group ( $\text{C}=\text{C}-\text{C}=\text{C}-\text{CO}_2\text{H}$ ), or (ii) an alpha-unsaturated carboxylic acid ( $\text{C}=\text{C}-\text{CO}_2\text{H}$ ). Additionally, as pointed out by the Examiner (citing pages 3, 6, and Examples), the specification describes embodiments according to both meanings (i) and (ii).

Applicants acknowledge that the term "conjugated diene" is generally interpreted in the art as  $\text{C}=\text{C}-\text{C}=\text{C}$ . However, while applicants did not closely follow strict convention in applicants' original description, applicants' intended meaning is not ambiguous, as supported by the various disclosed embodiments, Table 1 and the Examples. Applicants' intended meaning and teachings

cover use of: (i) a conjugated diene having a carboxylic acid or anhydride group ( $C=C-C=C-CO_2H$ ) (e.g., sorbic acid or anhydride, salicylic acid or anhydride); and/or (ii) an  $\alpha$ -unsaturated carboxylic acid or anhydride group ( $C=C-CO_2H$ ) (e.g., acrylic acid or anhydride, maleic acid or anhydride, or tetrahydrophthalic acid or anhydride; where a double bond is 'conjugated' in the sense that it is in the alpha position with respect to the carbon-oxygen double bond of the carboxylic acid or anhydride group).

Claims 4, 14, 23, 31 and 36 already only recite second moiety compounds comprising a conjugated diene having a carboxylic acid or anhydride group ( $C=C-C=C-CO_2H$ ) (e.g., sorbic acid or anhydride, and salicylic acid or anhydride), and thus satisfy the recited criteria. Please note that these claims recite three-moiety combinations, and that only the second moiety in each recited three moiety combination must comprise a conjugated diene having a carboxylic acid or anhydride group.

Claim 10, has been amended to recite "trimethylol propane trioleate—sorbic acid—glycerol" instead of the inadvertently recited "trimethylol propane trioleate—sorbitol—sorbate."

Support for recitation of glycerol is found throughout the originally-filed specification, for example in original claim 5.

Furthermore, applicants have clarified the claimed subject matter by amending *independent* claims 1, 11 and 20 to recite "a compound having a conjugated diene and a carboxylic acid or anhydride group," instead of the more ambiguous "a structure having a diene conjugated carbon-carbon double bond and a carboxylic acid or anhydride moiety." Applicants contend that no further specification amendments should be required where the disclosure is broader than the claimed subject matter; that is, applicants reserve the right to pursue  $\alpha$ -unsaturated carboxylic acids or anhydrides ( $C=C-CO_2H$ ) (e.g., acrylic acid or anhydride, maleic acid or anhydride, or tetrahydrophthalic acid or anhydride) in a divisional application.

Applicants, therefore, respectfully request withdrawal of the Examiner's specification objections, and the rejection of claims 4, 10, 14, 23, 31 and 36, under 35 U.S.C. § 112 ¶2, in view of applicants claim amendments.

### ***Nonstatutory Double Patenting Rejection***

The Examiner has maintained the rejection of claims 1, 2, 4-12, 14-21, 23-29 and 31-36 as being unpatentable because of alleged obviousness-type double patenting in view of co-owned U.S. Patent No. 6,239,298 (Office Action of 02 November 2004, at page 2).

Applicants respectfully traverse this rejection, based on the arguments already of record, and the fact that the first moieties are distinguishable between the present application and the asserted patent, and the compounds have surprising properties and utility.

While an asserted reference for double patenting purposes need not be assertable as 102 or 103 prior art, the obviousness-type double patenting analysis is analogous to that for considering obviousness under Section 103.

Specifically, the '298 patent relates to "fuel lubricity additives," and recites the use of an "unsaturated triglyceride plant oil or a thermal polymer thereof," whereas the instant application claims an "unsaturated synthetic base oil." *Surprisingly*, as taught in Examples 2 and 3 of the originally filed application, TMOSS (made from an unsaturated synthetic base oil) is as effective at preventing wear as the additive made by the same process from soybean oil, but is much more stable in high temperature, oxidizing conditions, as would be found in an engine crankcase (*see* Specification at page 13, lines 33-35).

Therefore, the presently claimed invention is not obvious in view of applicants' '298 patent, and applicants respectfully request withdrawal of the Examiner's non-statutory double patenting rejection.

### **CONCLUSION**

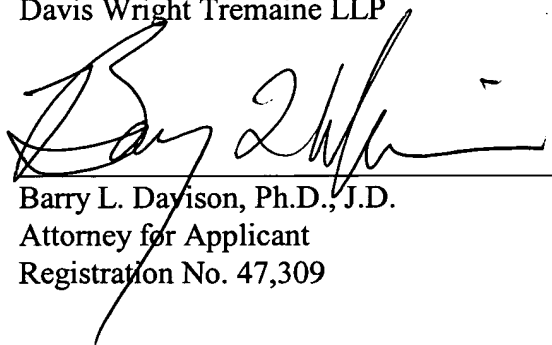
In view of the foregoing amendments and remarks, applicants respectfully request entry of the present Response and Amendment, and allowance of all claims 1, 2, 4-12, 14-21, 23-29 and 31-36.

The Examiner is encouraged to phone applicants' attorney, Barry L. Davison, to resolve any outstanding issues and expedite allowance of this application.

No new matter has been added.

Respectfully submitted,

Davis Wright Tremaine LLP

A handwritten signature in dark ink, appearing to read "Barry L. Davison", is written over a horizontal line. The signature is fluid and cursive.

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